

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) An apparatus for detecting an injection port ~~(12)having a membrane and adapted to be~~ subcutaneously implanted in a patient ~~(13)~~, comprising:

a magnetic device ~~(15;22) adapted to~~ emitting a local magnetic field, and
a magnetic detector ~~(17;21) adapted to~~ detecting the local magnetic field emitted by the magnetic device,

wherein the magnetic device ~~(15)~~ or magnetic detector ~~(21)~~ is designed ~~for to be~~ subcutaneously implanted in the patient at the implanted injection port ~~(12)~~, and the magnetic detector ~~(17)~~ or magnetic device ~~(22)~~ is movable externally along the patient's body to establish an injection position at the patient's skin ~~(16)~~ in front of the implanted injection port where the local magnetic field emitted by the magnetic device is detected by the magnetic detector, whereby an injection needle can be placed in the established injection position, in order to insert the injection needle through the patient's skin directly into the injection port substantially in the centre thereof.

2. (currently amended) An apparatus according to claim 1, wherein the magnetic detector ~~(17;21)~~ comprises a semiconductor circuit.

3. (currently amended) An apparatus according to claim 2, wherein the semiconductor circuit of the magnetic detector ~~(17;21)~~ comprises at least one Hall-element ~~(27)~~.

4. (currently amended) An apparatus according to claim 3, wherein the magnetic detector ~~(17;21)~~ comprises several Hall-elements ~~(27)~~ grouped around a central point in a triangular or square-configuration.

5. (currently amended) An apparatus according to ~~any one of~~ claims 1-4, wherein the magnetic device ~~(15)~~ is designed ~~for to be~~ subcutaneously implanted in the patient at the implanted injection port ~~(12)~~ to emit the local magnetic field through a portion of the patient's skin ~~(16)~~ adjacent to the injection port, and the magnetic detector ~~(17)~~ is movable externally along the patient's body to establish the injection position where the local magnetic field is detected by the magnetic detector.

6. (currently amended) An apparatus according to claim 5, wherein the magnetic device comprises a ring-magnet ~~(15)~~ designed ~~for to be~~ implanted around the membrane of the implanted injection port ~~(12)~~.

7. (currently amended) An apparatus according to ~~any one of~~ claims 1-4, wherein the magnetic detector ~~(21)~~ is designed ~~for to be~~ subcutaneously implanted in the patient at the implanted injection port ~~(12)~~, and the magnetic device ~~(22)~~ is ~~adapted to emit~~ the local magnetic field through the patient's skin ~~(16)~~ from outside the patient's body and is movable externally along the patient's body to establish the injection position where the local magnetic field is detected by the implanted magnetic detector.

8. (currently amended) An apparatus according to claim 7, wherein the magnetic device comprises a ring-magnet ~~(22)~~.

9. (currently amended) An apparatus according to claim 7-~~or~~8, further comprising a sender ~~(23)~~ implantable in the patient's body ~~for and capable of~~ sending information about the magnetic detector ~~(21)~~ to outside the patient's body, as the magnetic detector detects the local magnetic field emitted by the magnetic device ~~(22)~~ from outside the patient's body.

10. (currently amended) An apparatus according to ~~any one of~~ claims 1-9, wherein the magnetic detector ~~is adapted to emit~~ a sound when detecting the local magnetic field.

11. (currently amended) An apparatus according to ~~any one of~~ claims 2-6, wherein the magnetic detector is provided with at least one diode ~~adapted to~~ for emitting light when the detector detects the local magnetic field.

12. (currently amended) An apparatus according to ~~any one of~~ claims 2-6, wherein the magnetic detector is provided with a display ~~adapted to~~ for indicating when the detector detects the local magnetic field.

13. (currently amended) An apparatus according to ~~any one of~~ claims 1-12, wherein the magnetic device ~~(15;22)~~ is a solenoid or a permanent magnet.

14. (currently amended) Use of the apparatus according to ~~any one of~~ claims 1-13 for detecting a subcutaneously implanted injection port, which is hydraulically connected to an implanted hydraulically adjustable constriction device for treating reflux disease, obesity, anal or urinary incontinence, or impotence.

15. (currently amended) A method of detecting an injection port (12) subcutaneously implanted in a patient, comprising:

providing a magnetic device (15;22) ~~capable of~~ for emitting a local magnetic field through the patient's skin (16),

providing a magnetic detector (17;21) ~~adapted to~~ for detecting the local magnetic field emitted by the magnetic device,

subcutaneously implanting the magnetic device (15) or magnetic detector (21) in the patient at the implanted injection port (12),

moving the magnetic detector (17) or magnetic device (22) externally along the patient's body, and

establishing an injection position at the patient's skin (16) in front of the implanted injection port where the local magnetic field emitted by the magnetic device is detected by the magnetic detector.

16. (currently amended) A method according to claim 15, wherein the magnetic device (15) is subcutaneously implanted, the magnetic detector (17) is moved externally along the patient's body, and the injection position is established at the patient's skin (16) where the local magnetic field emitted by the implanted magnetic device is detected by the moving magnetic detector.

17. (currently amended) A method according to claim 15, wherein the magnetic detector (21) is subcutaneously implanted, the magnetic device (22) is moved externally along the patient's body, and the injection position is established at the patient's skin (16) where the local magnetic field emitted by the moving magnetic device is detected by the implanted magnetic detector.

18. (currently amended) A method according to claim 17, further comprising implanting a sender ~~(23)~~ and using the sender to send information to outside the patient's body confirming when the implanted magnetic detector ~~(21)~~ detects the local magnetic field emitted by the exterior magnetic device ~~(22)~~.

19. (currently amended) A method according to ~~any one of claims 15-18~~, wherein a semiconductor circuit is used as the magnetic detector ~~(17;21)~~.

20. (original) A method according to claim 19, wherein the semiconductor circuit comprises at least one Hall-element.

21. (new) A surgical method for treating a patient having a disease comprising the steps of:

insufflating the patient's abdomen with gas

implanting a hydraulically operable implant designed for treating reflux disease, urinary incontinence, impotence, anal incontinence or obesity in the abdomen by using surgical instruments through the trocars;

subcutaneously implanting an injection port for supplying hydraulic fluid for the operation of the implant and a magnetic device at the injection port for emitting a local magnetic field through the injection port and the adjacent skin portion of the patient;

post-operatively moving an exterior magnetic detector along the patient's body to a position in which the local magnetic field emitted by the implanted magnetic device is detected by the magnetic detector;

bringing an injection needle to the position in which the local magnetic field is detected; and

moving the injection needle to penetrate the patient's skin into the injection port for supplying hydraulic fluid to or withdrawing hydraulic fluid from the injection port.

22. (new) A surgical method for treating a patient having a disease comprising the steps of:

insufflating the patient's abdomen with gas

implanting a hydraulically operable implant designed for treating reflux disease, urinary incontinence, impotence, anal incontinence or obesity in the abdomen by using surgical instruments through the trocars;

subcutaneously implanting an injection port for supplying hydraulic fluid for the operation of the implant and a magnetic detector at the injection port;

post-operatively moving an exterior magnetic device emitting a local magnetic field along the patient's body to a position in which the local magnetic field emitted by the exterior magnetic device is detected by the implanted magnetic detector;

bringing an injection needle to the position in which the local magnetic field is detected; and

moving the injection needle to penetrate the patient's skin into the injection port for supplying hydraulic fluid to or withdrawing hydraulic fluid from the injection port.